



February 4, 2014

JN 1931-01-01

Nitsch Engineering
2 Center Plaza, Suite 430
Boston, Ma 02108-1928

Attn: Scott Turner

RE: CARDINAL PLACE SUBDIVISION

Dear Scott,

The enclosed plans have been revised in response to comments by New Bedford Planning Department, New Bedford Department of Public Infrastructure and you. The plans have a revision date of February 3, 2014. The response to your comments in your January 23, 2014 letter to the New Bedford Commission are as follows:

- Item 1. The test pit program determined the maximum groundwater elevations based on mottling. This assessment determined that, under worst case conditions, the subsurface flow mirrors the surface flow, that is, flow is away from Sassaquin Pond. Even though the area is not a critical area, the proposed stormwater treatment BMP's have been approved for use in critical areas.

- Item 3. We will interface with DPI to confirm that they will accept and maintain a trench drain. The bottom of the infiltration basin is elevation 93.0 and the maximum water table is 91.2, therefore, there is a 1.8 foot separation between the bottom of the basin and the maximum water table. Since the deep sump catch basins and the Stormceptor treatment system remove more than the requisite 80% of total suspended solids, there is no need for an infiltration system. Even though Nitsch will not give us credit for the biofiltration system because the separation from groundwater is off by two inches, we are still going to propose it because it represents good environmental engineering practice.

- Item 6.. The DEP stormwater manual mandates that the water quality volume for each subcatchment area be treated by the BMP. In this case (.6 inches)(2099 SF)(1/12") = 105 CF, that is, the first 105 cubic feet of runoff is required to be treated. The design treats the water quality volume for all storms up to and including the 100 year storm in unsubmerged conditions. It also treats the entire runoff volume for all storms up to and including the 10 year storm. That there is some bypass for the tail end of the 100 year storm under submerged conditions is of no relevance to the mandated treatment volume. The operations and maintenance requirements for the Stormceptor, which appear on Sheet DE1 of the plan set, has now been included in the Long Term Stormwater Operation and Maintenance Program (Appendix C in the Impact Report).



- Item 9. The peak elevation of the water in the infiltration basin for the 100 year design storm is 94.4. The spillway is set at 94.50 and the top of dike is elevation 95.5, therefore, there is over a foot of freeboard from the peak of the 100 year storm. See enclosed page 31 of the drainage calculations marked in red.
- Item 10. As stated in our response to item 3 above, we will take no credit for the infiltration under DEP's stormwater guidelines but it is clear that the proposed basin will be an effective BMP for stormwater management.
- Item 11. The grading and drainage sheet showed the dwellings, the driveway and the infiltrators to demonstrate how each lot could be developed and to provide a basis for the hydraulic design. We have repeatedly stated that individual Notices of Intent will be filed for lots 1 to 6. The dwellings and infiltrators are not required to be shown, so they have been removed from the plan set. Note # 5 on the Grading and Drainage plan has been added.
- Item 12. The construction stage erosion control measures have been left on Sheet ER2 of the plan set and the long term program has been deleted and inserted into Appendix C of the Development Impact Report. We recommend that the proponent be required to insert into the deeds of each lot a specific reference to the pesticide and fertilizer ban.
- Item 14. On page 19 of the calculations (attached), the peak flow under existing conditions for the 100 year storm is .32 cfs. On page 33 the peak outflow is shown to be .08 cfs. The Drainage Summary page has been revised accordingly (attached).
- Item 17. The detail on sheet DE-1 has been modified in order to make it clear that no work is proposed in the 25 foot no disturb zone.
- Item 19. The detail has been revised to specify the stone that Nitsch Engineering recommends.

We trust these revisions are acceptable and look forward to your concurrence.

Sincerely,
PRIME ENGINEERING, INC.

Richard J. Rheume, P.E., LSP
Chief Engineer

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